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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,345	09/04/2003	C. Steven McDaniel	RACT-00200	6570

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EXAMINER
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SWOPE, SHERIDAN

ART UNIT	PAPER NUMBER
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1652

MAIL DATE	DELIVERY MODE
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05/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/655,345

Applicant(s)

MCDANIEL, C. STEVEN

Examiner

Sheridan L. Swope

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2006 and 07 March 2007.
- 2a) ☒ This action is **FINAL**.
- 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.

4a) Of the above claim(s) 7, 11-28, 31-35, 37-63, 65, 66, 69-71, 77, 78, 84-87, 90-93, 98-102, 104, 106-108, 113-125, 132-179, 183-216, 218-250, 253-256, 272, 309, 313-318, 321, 322, 325-342, 345-350, 355-364, 366, 367, 371-373, 375, 377-379, 386-390, and 392 is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) 9, 181, 182 and 320 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All
  - b) ☐ Some
  - \* c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 0107.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims pending in the application are 1,7-28,31-35,37-63,65-67,69-75,77-108,110-256,272,309 and 313-392.

Continuation of Disposition of Claims: Claims rejected are 1,8-10,67,72-75,79-83,88,89,94-97,103,105,110-112,126-131,180-182,217,251,252,319,320,323,324,343,344,351-354,365,368-370,374,376,380-385 and 391.

**DETAILED ACTION**

Applicant's responses and amendments of July 12, 2006 and March 7, 2007, in response to the First Action on the Merits of this case mailed January 12, 2006, are acknowledged. It is acknowledged that Claims 2-6, 29, 30, 36, 64, 68, 76, 109, 257-271, 273-308, and 310-312 have been cancelled, Claims 1, 7-28, 31-35, 37-63, 65-67, 69-75, 77-108, 110-256, 272, 309, 313-321 have been amended, and Claims 322-392 have been added. Claims 1, 7-28, 31-35, 37-63, 65-67, 69-75, 77-108, 110-256, 272, 309, and 313-392 are pending. Claims 7, 11-28, 31-35, 37-63, 65, 66, 69-71, 77, 78, 84-87, 90-93, 98-102, 104, 106-108, 113-125, 132-179, 183-216, 218-250, 253-256, 272, 309, 313-318, and 321 were previously withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions. New Claims 323, 324, 343, 344, 351-354, 365, 368-370, 374, 376, 380-385, and 391 are encompassed by the elected invention. New Claims 322, 325-342, 345-350, 355-364, 366, 367, 371-373, 375, 377-379, 386-390, and 392 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions. Claims 1, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 180-182, 217, 251, 252, 319, 320, 323, 324, 343, 344, 351-354, 365, 368-370, 374, 376, 380-385 and 391 are hereby examined.

It is noted that the claim set of March 7, 2007 list Claims 322-350 as "Amended"; however, said claims are New.

***Information Disclosure Statement***

Objection to the Information Disclosure Statements of December 16, 2004 and November 23, 2004 because they are incomplete or improper is maintained.

### ***References***

As previously explained, one of the references submitted by Applicants is completely illegible. Applicants are required to submit a new copy that is legible and include, if appropriate, the citation on a new Information Disclosure Statement.

### ***Specification-Objections***

The specification is objected to because the amendment of July 12, 2006 introduces New Matter. Specifically, for paragraph [0009] the amendment “Additional types of methods include” introduces New Matter.

### ***Claims-Objections***

Claims 9, 181, 182, and 320 are objected to for reciting non-elected subject matter.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

### ***Double Patenting***

Provisional rejection of Claims 1-6, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 217, 251, 252, 319, and 320 under 35 USC § 101, the judicially created doctrine of obviousness-type double patenting, as being unpatentable over Claims 1-8 and 185-195 of US Application 10/884,355 (previously mis-typed as 10/855,344), for the reasons explained in the prior action, is maintained. Claims 351-354, 365, 368-370, 374, 376, 380-385, and 391 are herein rejected for the same reasons. In support of their request that said rejection be withdrawn, Applicants provide the following arguments. That the subject matter of 10/855,344 is irrelevant to the instant application and 10/855,344 does not have the cited claims. These arguments are

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not found to be persuasive. It is acknowledged that 10/855,344 recites art different from the instant application. Thus, it is obvious that reference to 10/855,344 is a typographical error. At the time of the prior action, January 12, 2006, the inventor had only three pending applications reciting subject matter including the terms "paint" and "protein": the instant application, 10/792,516, and 10/884,355. The claims of 10/792,516 recite a coating or paint comprising cellular matter, while the claims of 10/884,355 recite coatings comprising proteins. Based on the numerical relationship between 10/855,344 and 10/884,355, as well as the subject matter of 10/884,355, it is obvious that the original rejection of the instant claims was meant to be over 10/884,355. Therefore, provisional rejection of Claims 1-6, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 217, 251, 252, 319, 320, 351-354, 365, 368-370, 374, 380-385, and 391, under 35 USC § 101, as being unpatentable over Claims 1-8 and 185-195 of US Application 10/884,355, for the reasons explained in the prior action, is maintained.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 112-Second Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 217, 251, 252, 319, 320, 323, 324, and 383-385 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the following reasons.

For Claims 1 and 319, the term "configured" renders the claim indefinite. Said term is

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not defined by the claim, the specification does not provide a standard for ascertaining the requisite structure, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claims 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 217, 251, 252, 323, and 324, as dependent from Claim 1, and Claim 320, as dependent from Claim 319, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the same reason.

For Claims 110 and 383, the phrase “lasting upon a surface” renders the claims indefinite. “Lasting” is relative term that is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claim 111, as dependent from Claim 110, and Claims 384 and 385, as dependent from Claim 383, are rejected

***Claim Rejections - 35 USC § 112-First Paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Enablement**

Rejection of Claims 1, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 180-182, 217, 251, 252, 319, 320, 323, and 324, under 35 U.S.C. 112, first paragraph/enablement, for the reasons stated in the prior action, is maintained. Claims 343, 344, 351-354, 365, 368-370, 374, 376, 380-385 and 391 are herein rejected under 35 U.S.C. 112, first paragraph/enablement, for the same reasons. In support of their request that said rejection be withdrawn, Applicants provide the following arguments.

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(A) The claims have been amended to recite the functional limitation of “a proteinaceous material which is configured to bind to a chemical that is toxic to humans”.

(B) Claim 319 has been amended to recite the limitation of “exhibit said binding activity...for greater than approximately 1 week”.

(C) The specification is enabling for a broader scope of coatings than just a paint comprising enzymatically active organophospho-hydrolase.

(D) The specification teaches that the active biomolecule comprises a proteinaceous molecule and, in some aspects, is an enzyme.

These arguments are not found to be persuasive for the following reasons.

(A) Reply: It is acknowledged that the claims have been amended to recite the functional limitation of “a proteinaceous material which is configured to bind to a chemical that is toxic to humans”. However, the specification does not enable the skilled artisan to make and use a paint comprising any proteinaceous material, or any enzyme, that binds to any chemical that is toxic to humans. The specification is not enabling for the full scope of the recited invention.

(B) Reply: It is acknowledged that Claim 319 has been amended to recite the limitation of “exhibit said binding activity...for greater than approximately 1 week”. However, for the reasons stated in the prior action and in (A) above, the specification is not enabling for the full scope of the recited invention.

(C) Reply: The specification may be enabling for a broader scope of coatings than just a paint comprising enzymatically active organophospho-hydrolase. However, for the



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reasons stated in the prior action and in (A) above, the specification is not enabling for the full scope of the recited invention.

(D) Reply: It is acknowledged that the specification teaches that the active biomolecule comprises a proteinaceous molecule and, in some aspects, is an enzyme. However, for the reasons stated in the prior action and in (A) above, the specification is not enabling for the full scope of the recited invention.

### **Written Description**

Rejection of Claims 1, 8-10, 67, 72-75, 79-83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 180-182, 217, 251, 252, 319, 320, 323, and 324, under 35 U.S.C. 112, first paragraph/written description, for the reasons stated in the prior action, is maintained. Claims 351-354, 365, 368-370, 374, 376, 380-385 and 391 are herein rejected under 35 U.S.C. 112, first paragraph/ written description, for the same reasons. In support of their request that said rejection be withdrawn, Applicants provide the arguments described above for the rejection under 35 U.S.C. 112, first paragraph/enablement. The reasons these arguments are not found to be persuasive are explained above.

Claims 67, 74, 75, 83, 89, 110-112, 127-131, 319, 320, 351-353, 365, 368-370, 374, 376, 380-385, and 391 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the Inventors, at the time the application was filed, had possession of the claimed invention. Claims 67, 74, 75, 83, 89, 110, 127-131, 319, 351-353, 368-370, 382, 383 introduce the following limitations.

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Claim 67: "approximately 0.001% to approximately 40%"

Claim 74: "approximately 5um to approximately 1500um"

Claim 75: "approximately 15um to approximately 500um"

Claim 83: "approximately 15um to approximately 150um"

Claim 89: "approximately -10°C and approximately 40°C"

Claim 110: "approximately 1 second and approximately 6 months"

Claim 127: "approximately 0.90 kg/L to approximately 1.2 kg/L"

Claim 128: "approximately 72 Ku to approximately 95 Ku"

Claim 129: "approximately 100 P to approximately 1000 P"

Claim 130: "approximately 0.5 P to approximately 2.5 P"

Claim 131: "approximately 100 P to approximately 1000 P"

Claim 351: "approximately 1 week"

Claim 352: "approximately 1 month"

Claim 353: "approximately 1 year"

Claim 368: "approximately 1 week"

Claim 369: "approximately 1 month"

Claim 370: "approximately 1 year"

Claim 382: "approximately 1500um"

Claim 383: "approximately 1 second and approximately 6 months"

In each case, the specific limitation is described by the specification; however, "approximately" introduces New Matter. Therefore, Claims 67, 74, 75, 83, 89, 110, 127-131, 319, 351-353, 368-370, 382, 383 are rejected under 35 U.S.C. 112, first paragraph, as failing to

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comply with the written description requirement. Claims 111 and 112, as dependent from Claim 110, Claims 320 and 365, as dependent from Claim 319, Claims 369, 370, 374, 376, 380, 381-385, and 391, as dependent from Claim 368, and Claims 384 and 385, as dependent from Claim 383, are rejected under 35 U.S.C. 112, first paragraph/written description, for the same reasons.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Rejection of Claims 1, 8-10, 67, 72, 88, 89, 94-97, 110-112, 126, 180-182, 217, 319, and 320 under 35 U.S.C. 102(b) as being anticipated by Bonaventura et al, 1999 (Example 1), for the reasons explained in the prior action, is maintained. New Claims 323, 324, 343, 351-354, 365, 368-370, 374, 376, 380-385 and 391 are herein rejected under 35 U.S.C. 102(b) as being anticipated by Bonaventura et al for the same reasons.

Rejection of Claims 1, 8-10, 67, 72-75, 79, 80, 82, 83, 88, 89, 94-97, 103, 105, 110-112, 126-131, 180-182, 217, 252, 319, and 320 under 35 U.S.C. 102(b) as being anticipated by Cheng et al, 1999, for the reasons explained in the prior action, is maintained. New Claims 323, 324, 343, 351-354, 365, 368-370, 374, 376, 380-385 and 391 are herein rejected under 35 U.S.C. 102(b) as being anticipated by Cheng et al for the same reasons.

In support of their request that said rejections be withdrawn, Applicants provide the following arguments.

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(E) Neither Bonaventura et al nor Cheng et al disclose a paint which binds to a toxic compound.

(F) Neither Bonaventura et al nor Cheng et al disclose a surface treatment that is effective for more than one week.

These arguments are not found to be persuasive for the following reasons.

(E) Reply: The coatings of Bonaventura et al comprise a variety of proteases (col 14). The skilled artisan would know that, inherently, one or more of said proteases bind to a toxic compound. The coatings of Bonaventura et al comprise an organophosphorus acid anhydrolase (Table 3). The skilled artisan would know that organophosphorus acid anhydrolase binds to toxic organophosphorus compounds.

(F) Reply: It is acknowledged that neither Bonaventura et al nor Cheng et al specifically disclose that their coatings are effective for more than one week. However, the skilled artisan would believe that, inherently, said coatings are effective for more than one week.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 81 and 251 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonaventura et al, 1999 or Cheng et al, 1999 in view of Stoye et al, 1993, for the reasons described in the prior action, is maintained. In support of their request that said rejection be withdrawn, Applicants argue that neither Bonaventura et al nor Cheng et al disclose a paint

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which binds to a toxic compound. This is not found to be persuasive for the reasons stated in (E) above.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheridan L. Swope whose telephone number is 571-272-0943.

The examiner can normally be reached on M-F; 9:30-7 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheridan Lee Swope, Ph.D.  
Art Unit 1656



SHERIDAN SWOPE, PH.D.  
PRIMARY EXAMINER